

**ABSTRACT**

The bandwidth for transmission and reception in a bi-directional radio relay link with two simultaneous broadcasts and receptions is reduced by half. Each terminal device comprises a first broadcaster for broadcasting a first data signal, via a first antenna, in a first used frequency band identical to that in which a first receiver receives a second data signal via a second antenna. A second receiver receives, via the first antenna, a third data signal with a second frequency band and a second broadcaster broadcasts, via a second antenna, a fourth data signal with the second frequency band.